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1940 DUKE ST ALEXANDRIA	REET	HANNE, SARA M			
ALEXANDRIA	A, VA 22314		ART UNIT	PAPER NUMBER	
		2179			
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# Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summany		Application No. Applicant(s)							
		10/536,814	ļ	PORTER ET AL.					
Office Action Summary			Examiner		Art Unit				
			SARA M. H		2179				
Period fo	The MAILING DATE of this commur or Reply	nication appe	ears on the	cover sheet with the d	correspondence ad	ldress			
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.  - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).									
Status									
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Dispositi	on of Claims								
4)🛛	Claim(s) <u>1-5,8-16,20 and 21</u> is/are p	pending in th	ne applicati	on.					
	4a) Of the above claim(s) is/are withdrawn from consideration.								
	5) Claim(s) is/are allowed.								
′=	Claim(s) <u>1-5,8-16,20 and 21</u> is/are r	reiected.							
·	Claim(s) is/are objected to.	- <b>,</b>							
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9)□	The specification is objected to by th	ne Examiner.							
10)	The drawing(s) filed on is/are	: a) <u></u> acce	pted or b)	objected to by the I	Examiner.				
<i>,</i> —	10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).								
	Replacement drawing sheet(s) including					FR 1.121(d).			
11)□	• • • • • • • • • • • • • • • • • • • •		-			, ,			
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.									
Priority ι	ınder 35 U.S.C. § 119								
<ul> <li>12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).</li> <li>a) All b) Some * c) None of:</li> <li>1. Certified copies of the priority documents have been received.</li> <li>2. Certified copies of the priority documents have been received in Application No</li> <li>3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).</li> <li>* See the attached detailed Office action for a list of the certified copies not received.</li> </ul>									
2)  Notic 3) Inform	t(s) e of References Cited (PTO-892) e of Draftsperson's Patent Drawing Review (fination Disclosure Statement(s) (PTO/SB/08) r No(s)/Mail Date 7/2/09.	PTO-948)		4) Interview Summary Paper No(s)/Mail Da 5) Notice of Informal F 6) Other:	ate				

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## **DETAILED ACTION**

1. Claims 1-5, 8-16 and 20-21 are pending in this application.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/22/09 has been entered.

## Claim Rejections - 35 USC § 112

2. Claim 21 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 21 does not appear to accurately reflect the subject matter disclosed in the specification and does not operate properly with respect to what is explained in the specification. The probability appears to evolve from the frequency of the set of attributes causing a specific bin number, h, however Claim 21 attempts to claim that the probability is calculated from the equation stated. Therefore this is inconsistent with the specification, and the meaning of the claim is indeterminable and therefore has not been further treated on the merits.

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## Claim Rejections - 35 USC § 103

- 3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
- 5. Claims 1-6, 8-12,14-16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Snook, US Patent 6400378, and further in view of Dufaux, US Patent 6711587.

As in Claims 1 and 15, Snook teaches a media handling system in which candidate video sequences are displayed on a display screen in schematic form for selection by a user (Fig. 3 and corresponding text) and method (Fig. 3 and corresponding text), the system and method comprising: a display screen configured to

display representations of the candidate video sequences for selection by a user (ref. 120), each representation including one or more images derived from the respective video seguences (Col. 2, lines 64-66); and a user control means for defining a set of one or more of the video sequences (Col. 2, line 55-Col. 3, line 1). While Snook teaches displaying video sequences, represented by a keyframe thumbnail, that may be for selected by a user to define a set of one or more video sequences, they fail to show the means for detecting human faces in the candidate video sequences to represent the candidate video sequences as a keyframe as recited in the claims. In the same field of the invention, Dufaux teaches a media handling system similar to that of Snook. In addition, Dufaux further teaches means for detecting human faces in the candidate video sequences (Fig. 5, ref. 500 and corresponding text); and assigning them as the key frame representations of the candidate video sequences (Col. 4, lines 4-7). It would have been obvious to one of ordinary skill in the art, having the teachings of Snook and Dufaux before him at the time the invention was made, to modify displaying video sequences, represented by a keyframe thumbnail, that may be for selected by a user to define a set of one or more video sequences taught by Snook to include the means for detecting human faces in the candidate video sequences and assigning them as the key frame representations of the candidate video sequences of Dufaux, in order to obtain means for detecting human faces in candidate video sequences, displaying video sequences, represented by an image representing human faces derived from the respective video sequences, that may be for selected by a user to define a set of one or more video sequences. One would have been motivated to make such a combination

because a way for the system to select a more relevant, user friendly representative image would have been obtained, as taught by Dufaux.

Snook fails to explicitly teach detecting human faces derived from the respective video sequences and displaying the one with the highest probability of containing a face in the group. Dufaux teaches the detecting means is operable to detect a probability of a human face being present in each field or frame of the video sequences (Col. 1, lines 55-57); each displayed representation of a candidate video sequence including one or more images representing human faces which have the highest probability levels amongst the respective video sequences (Col. 12, line 4 et seq.). It would have been obvious to one of ordinary skill in the art, having the teachings of Snook and Dufaux before him at the time the invention was made, to modify displaying video sequences, represented by a keyframe thumbnail, that may be for selected by a user to define a set of one or more video sequences and a further ordered representation of a group of at least a subset of the video sequences forming the output media product taught by Snook to include the detecting human faces derived from the respective video sequences and displaying the one with the highest probability of containing a face in the group of Dufaux, in order to obtain a further ordered representation of a group of at least a subset of the video sequences forming the output media product, the video sequences represented by an image with the highest probability of containing human faces derived from the respective video sequences. One would have been motivated to make such a combination because a way for the system to select a more relevant, user friendly representative image would have been obtained, as taught by Dufaux.

Snook fails to explicitly teach weighting frames according to the size of detected human faces derived from the respective video sequences. Dufaux teaches the detecting means is operable to detect a probability of a human face being present in each field or frame of the video sequences (Fig. 5) and to weight at least some of the detected probability levels in dependence on the size of the detected face (Col. 12, lines 4 et seq.). It would have been obvious to one of ordinary skill in the art, having the teachings of Snook and Dufaux before him at the time the invention was made, to modify displaying video sequences, represented by a keyframe thumbnail, that may be for selected by a user to define a set of one or more video sequences and a further ordered representation of a group of at least a subset of the video sequences forming the output media product taught by Snook to include the weighting frames according to the size of detected human faces derived from the respective video sequences of Dufaux, in order to obtain a further ordered representation of a group of at least a subset of the video sequences forming the output media product, the video sequences represented by an image with the highest probability of containing a particular sized human faces derived from the respective video sequences. One would have been motivated to make such a combination because a way for the system to select a more accurate face detection method for keyframe selection would have been obtained, as taught by Dufaux.

As in Claim 2, Snook teaches the set of one or more of the video sequences is an ordered edited set forming an output media product (Col. 2, lines 62-64). Application/Control Number: 10/536,814

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As in Claim 3, the above combination of Snook and Dufaux teach the system of Claim 1 as rejected supra. Snook further teaches a further ordered representation of a group of at least a subset of the video sequences forming the output media product (Snook, Col. 8, lines 2-3). Snook fails to explicitly teach images representing human faces derived from the respective video sequences in the group. Dufaux teaches detected human faces represent their respective video sequences (Dufaux, Col. 4, lines 4-7). It would have been obvious to one of ordinary skill in the art, having the teachings of Snook and Dufaux before him at the time the invention was made, to modify displaying video sequences, represented by a keyframe thumbnail, that may be for selected by a user to define a set of one or more video sequences and a further ordered representation of a group of at least a subset of the video sequences forming the output media product taught by Snook to include the means for detecting human faces in the candidate video sequences and assigning them as the key frame representations of the candidate video sequences of Dufaux, in order to obtain a further ordered representation of a group of at least a subset of the video sequences forming the output media product, the video sequences represented by an image representing human faces derived from the respective video sequences. One would have been motivated to make such a combination because a way for the system to select a more relevant, user friendly representative image would have been obtained, as taught by Dufaux.

As in Claim 4, Snook teaches the ordered representation is a timeline representation ("video timeline", Col. 6, line 29), providing an ordered representation of

the group of video sequences forming the output media product along a generally rectilinear path on the display screen (Fig. 6A and corresponding text).

As in Claim 5, Snook teaches which the ordered representation may be scaled so as to vary the proportion of the video sequences forming the output media product which are currently displayed in the ordered representation (Fig. 6A ref. 625 and corresponding text).

As in Claim 6, Snook fails to explicitly teach detecting human faces derived from the respective video sequences and displaying the one with the highest probability of containing a face in the group. Dufaux teaches the detecting means is operable to detect a probability of a human face being present in each field or frame of the video sequences (Col. 1, lines 55-57); each displayed representation of a candidate video sequence including one or more images representing human faces which have the highest probability levels amongst the respective video sequences (Col. 12, line 4 et seq.). It would have been obvious to one of ordinary skill in the art, having the teachings of Snook and Dufaux before him at the time the invention was made, to modify displaying video sequences, represented by a keyframe thumbnail, that may be for selected by a user to define a set of one or more video sequences and a further ordered representation of a group of at least a subset of the video sequences forming the output media product taught by Snook to include the detecting human faces derived from the respective video sequences and displaying the one with the highest probability of containing a face in the group of Dufaux, in order to obtain a further ordered representation of a group of at least a subset of the video sequences forming the output

media product, the video sequences represented by an image with the highest probability of containing human faces derived from the respective video sequences. One would have been motivated to make such a combination because a way for the system to select a more relevant, user friendly representative image would have been obtained, as taught by Dufaux.

As in Claim 8, Snook fails to explicitly teach weight the probability levels so that detected faces closer in size to a desired representation size are more likely to be selected to form a displayed representation. Dufaux teaches the detecting means is operable to detect a probability of a human face being present in each field or frame of the video sequences (Fig. 5) and to weight at least some of the detected probability levels in dependence on the size of the detected face (Col. 12, lines 4 et seq.); each displayed representation of a candidate video sequence including one or more images representing human faces which have the highest weighted probability levels amongst the respective video sequences (Col. 12, line 4 et seq.). Dufaux further teaches the detecting means weights the probability levels so that detected faces closer in size to a desired representation size are more likely to be selected to form a displayed representation (Col. 2, lines 12-25). It would have been obvious to one of ordinary skill in the art, having the teachings of Snook and Dufaux before him at the time the invention was made, to modify displaying video sequences, represented by a keyframe thumbnail, that may be for selected by a user to define a set of one or more video sequences and a further ordered representation of a group of at least a subset of the

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video sequences forming the output media product taught by Snook to include the weight the probability levels so that detected faces closer in size to a desired representation size are more likely to be selected to form a displayed representation Dufaux, in order to obtain a further ordered representation of a group of at least a subset of the video sequences forming the output media product, the video sequences represented by an keyframe image determined according to weight, weight the probability levels so that detected faces closer in size to a desired representation size are more likely to be selected to form a displayed representation. One would have been motivated to make such a combination because a way for the system to select a more accurate facial detection method for keyframe selection would have been obtained, as taught by Dufaux.

As in Claim 9, Snook fails to explicitly teach the detecting means applies the weighting over a subset of the fields or frames of a video sequence. Dufaux teaches the detecting means applies the weighting over a subset of the fields or frames of a video sequence (Col. 2, lines 20-24). It would have been obvious to one of ordinary skill in the art, having the teachings of Snook and Dufaux before him at the time the invention was made, to modify displaying video sequences, represented by a keyframe thumbnail, that may be for selected by a user to define a set of one or more video sequences and a further ordered representation of a group of at least a subset of the video sequences forming the output media product taught by Snook to include the weighting frames according to the size of detected human faces derived from the

respective video sequences and displaying the one with the highest probability of containing a face in the group of Dufaux, in order to obtain a further ordered representation of a group of at least a subset of the video sequences forming the output media product, the video sequences represented by a detected keyframe image, the detecting means is operable to apply the weighting over a subset of the fields or frames of a video sequence. One would have been motivated to make such a combination because a way for the system to select a more accurate face detection method for keyframe selection would have been obtained, as taught by Dufaux.

As in Claims 10-11, Snook fails to explicitly teach the weighting over frames of a video sequence. Dufaux teaches the detecting means applies the weighting over frames of a video sequence (Col. 2, lines 20-24). It would have been obvious to one of ordinary skill in the art, having the teachings of Snook and Dufaux before him at the time the invention was made, to modify displaying video sequences, represented by a keyframe thumbnail, that may be for selected by a user to define a set of one or more video sequences and a further ordered representation of a group of at least a subset of the video sequences forming the output media product taught by Snook to include the detecting means applies the weighting over frames of a video sequence of Dufaux, in order to obtain a further ordered representation of a group of at least a subset of the video sequences forming the output media product, the video sequences represented by a detected keyframe image, the detecting means applies the weighting over frames of a video sequence. One would have been motivated to make such a combination

because a way for the system to select a more accurate face detection method for keyframe selection would have been obtained, as taught by Dufaux.

As in Claim 12, Snook teaches selection of a displayed representation by the user control causes the display of the corresponding video sequence (Col. 3, lines 33-37).

As in Claim 14, Snook fails to explicitly teach indicating that faces detected in two or more respective ones of the candidate video sequences represent the same person's face. Dufaux teaches a user control means indicates that faces detected in two or more of the candidate video sequences represent the same person's face (Fig. 5 and corresponding text). It would have been obvious to one of ordinary skill in the art, having the teachings of Snook and Dufaux before him at the time the invention was made, to modify displaying video sequences, represented by a keyframe thumbnail, that may be for selected by a user to define a set of one or more video sequences and a further ordered representation of a group of at least a subset of the video sequences forming the output media product taught by Snook to include the indicating that faces detected in two or more respective ones of the candidate video sequences represent the same person's face of Dufaux, in order to obtain a further ordered representation of a group of at least a subset of the video sequences forming the output media product, the video sequences represented by a detected keyframe image with detected faces and indicating that faces detected in two or more respective ones of the candidate video sequences represent the same person's face. One would have been motivated to make

such a combination because a way for the system to select a more accurate face detection method for keyframe selection would have been obtained, as taught by Dufaux.

As in Claim 16, Snook teaches computer readable storage medium (Fig. 2 and corresponding text) encoded with a computer readable program configured to cause an information processing apparatus to execute the method of Claim 15 (See Claim 15 rejection *supra*).

As in Claim 20, Snook teaches a media handling system in which candidate video sequences are displayed on a display screen in schematic form for selection by a user (Fig. 3 and corresponding text), the system comprising: a display screen configured to display representations of the candidate video sequences for selection by a user (ref. 120), each representation including one or more images derived from the respective video sequences (Col. 2, lines 64-66); and a user control for defining a set of one or more of the video sequences (Col. 2, line 55-Col. 3, line 1). While Snook teaches displaying video sequences, represented by a keyframe thumbnail, that may be for selected by a user to define a set of one or more video sequences, they fail to show the detector to detect human faces in the candidate video sequences to represent the candidate video sequences as a keyframe as recited in the claims. In the same field of the invention, Dufaux teaches a media handling system similar to that of Snook. In addition, Dufaux further teaches detector to detect human faces in the candidate video

sequences (Fig. 5, ref. 500 and corresponding text); and assigning them as the key frame representations of the candidate video sequences (Col. 4, lines 4-7). It would have been obvious to one of ordinary skill in the art, having the teachings of Snook and Dufaux before him at the time the invention was made, to modify displaying video sequences, represented by a keyframe thumbnail, that may be for selected by a user to define a set of one or more video sequences taught by Snook to include the detector to detect human faces in the candidate video sequences and assigning them as the key frame representations of the candidate video sequences of Dufaux, in order to obtain a detector to detect human faces in candidate video sequences, displaying video sequences, represented by an image representing human faces derived from the respective video sequences, that may be for selected by a user to define a set of one or more video sequences. One would have been motivated to make such a combination because a way for the system to select a more relevant, user friendly representative image would have been obtained, as taught by Dufaux.

Snook fails to explicitly teach detecting human faces derived from the respective video sequences and displaying the one with the highest probability of containing a face in the group. Dufaux teaches the detecting means is operable to detect a probability of a human face being present in each field or frame of the video sequences (Col. 1, lines 55-57); each displayed representation of a candidate video sequence including one or more images representing human faces which have the highest probability levels amongst the respective video sequences (Col. 12, line 4 et seq.). It would have been obvious to one of ordinary skill in the art, having the teachings of Snook and Dufaux

before him at the time the invention was made, to modify displaying video sequences, represented by a keyframe thumbnail, that may be for selected by a user to define a set of one or more video sequences and a further ordered representation of a group of at least a subset of the video sequences forming the output media product taught by Snook to include the detecting human faces derived from the respective video sequences and displaying the one with the highest probability of containing a face in the group of Dufaux, in order to obtain a further ordered representation of a group of at least a subset of the video sequences forming the output media product, the video sequences represented by an image with the highest probability of containing human faces derived from the respective video sequences. One would have been motivated to make such a combination because a way for the system to select a more relevant, user friendly representative image would have been obtained, as taught by Dufaux.

Snook fails to explicitly teach weighting frames according to the size of detected human faces derived from the respective video sequences. Dufaux teaches the detecting means is operable to detect a probability of a human face being present in each field or frame of the video sequences (Fig. 5) and to weight at least some of the detected probability levels in dependence on the size of the detected face (Col. 12, lines 4 et seq.). It would have been obvious to one of ordinary skill in the art, having the teachings of Snook and Dufaux before him at the time the invention was made, to modify displaying video sequences, represented by a keyframe thumbnail, that may be for selected by a user to define a set of one or more video sequences and a further ordered representation of a group of at least a subset of the video sequences forming

the output media product taught by Snook to include the weighting frames according to the size of detected human faces derived from the respective video sequences of Dufaux, in order to obtain a further ordered representation of a group of at least a subset of the video sequences forming the output media product, the video sequences represented by an image with the highest probability of containing a particular sized human faces derived from the respective video sequences. One would have been motivated to make such a combination because a way for the system to select a more accurate face detection method for keyframe selection would have been obtained, as taught by Dufaux.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Snook, US Patent 6400378, Dufaux, US Patent 6711587 and further in view of Trivedi et al., US Patent Application Publication 2006/0187305, hereinafter Trivedi.

Snook and Dufaux teach means for detecting human faces in candidate video sequences, displaying video sequences, represented by an image representing human faces derived from the respective video sequences, that may be for selected by a user to define a set of one or more video sequences (Claim 1 rejection *supra*). While Snook and Dufaux teach displaying video sequences, represented by a keyframe thumbnail, that may be for selected by a user to define a set of one or more video sequences, detecting human faces in the candidate video sequences to represent the candidate video sequences as a keyframe, they fail to show the candidate video sequences are selected from a video sequence captured by a surveillance camera as recited in the

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claims. In the same field of the invention, Trivedi teaches a media handling system and facial detection similar to that of Snook and Dufaux. In addition, Trivedi further teaches in which the candidate video sequences are selected from a video sequence captured by a surveillance camera (Par. 0038). It would have been obvious to one of ordinary skill in the art, having the teachings of Snook, Dufaux before him at the time the invention was made, to modify displaying video sequences, represented by a keyframe thumbnail, that may be for selected by a user to define a set of one or more video sequences, detecting human faces in the candidate video sequences and assigning them as the key frame representations of the candidate video sequences taught by Snook and Dufaux to include the candidate video sequences are selected from a video sequence captured by a surveillance camera of Trivedi, in order to obtain means for detecting human faces in candidate video sequences captured by a surveillance camera, displaying video sequences, represented by an image representing human faces derived from the respective video sequences, that may be for selected by a user to define a set of one or more video sequences. One would have been motivated to make such a combination because a way for police and security guards to single out people from video surveillance would have been obtained, as taught by Trivedi.

# Response to Arguments

Applicant's arguments filed 5/22/09 have been fully considered but they are not persuasive.

The applicant states "Snook and Dufaux do not disclose or suggest "a method of media handling in which candidate video sequences are displayed on a display screen in schematic form for selection by a user". The examiner disagrees and further notes that this is a part of the preamble and is not disclosed as a limitation in the body of the claim. The stated preamble is not given patentable weight as it fails to breathe life, meaning, and vitality into the claims.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, the examiner disagrees. As stated in the advisory, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See In re McLaughlin, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). One of ordinary skill would be able to see the advantage of using skin pixels to weight more desirable frames by incorporating this into the invention of Snook which displays a keyframe representing a video sequence for selection.

In response to the applicant's argument that "Dufaux is silent regarding weighting a detected probability level depending on a size of a detected face" (page 10, lines 21-22) the examiner disagrees. Dufaux teaches giving weight, referred to as a weighting factor (Col. 2, line 24) to determine the shot score, according to different limitations including the skin pixels (Col. 2, line 22). A larger face in a shot would give the shot a

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higher number of skin pixels. This is further illustrated by Dufaux in Col. 6, beginning on line 41, when they begin to discuss the process of determining if the frame has people in it. Frames that have smaller faces are not given as much weight because they "are not likely to be representative of the video" as a whole.

The prior art made of record on form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. § 1.111(c) to consider these references fully when responding to this action. The documents cited therein teach similar video editing and keyframe selection techniques as well as methods for detecting human faces within video.

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#### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sara M. Hanne whose telephone number is (571) 272-4135. The examiner can normally be reached on M-F 7:30am-4:00pm, off on alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WEILUN LO can be reached on (571) 272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sara M Hanne/ Examiner, Art Unit 2179